Application Method 7

Metam Sodium and Metam Potassium Field Soil Fumigation Recommended Permit Conditions for Shank Applications

Introduction

These permit conditions were developed to mitigate hazards of offsite movement of methyl isothiocyanate following applications of metam sodium, metam potassium and dazomet. Risk assessment and illnesses identified excess risk of field workers and bystanders near applications of these fumigants.

These permit condition requirements are coordinated with, but are not part of, the volatile organic compound regulations in Title 3, California Code of Regulations (3 CCR) sections 6450 through 6450.2.

CAC discretion

1. The CAC have the discretion to use mitigating conditions based on the local use conditions that have worked for them in the past.
2. The permit conditions are based on the fairly limited data that DPR has available. It does not cover all environmental conditions, climates, soil types, etc.

Prohibited fumigations near schools, day care centers, and preschools

1. All applications are prohibited within ½ mile of a school property when school is in session or is scheduled to be in session while the buffer zone is in effect.
2. Follow post-application water treatment and monitoring requirements for sensitive areas for all applications made ½ - 1 mile from the perimeter of the school property.

Accident response

1. All employees involved in an application or post-application water treatment must receive annual training in accident response procedures.
2. Employers must keep a record of employee training for a period of 2 years.

Permit application

Permit applications must include a map or description of all occupied structures and bystander areas within ½ mile of the fumigation site and all schools within 1 mile of the fumigation site

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Recommended Permit Conditions for Shank Applications,
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MITC control plan

1. For all applications the operator of the property must:
   - Provide a copy of the MITC Control Plan to the pest control business applying metam sodium and metam potassium.
   - Have the MITC Control Plan available, at the work site, while the application and postapplication work activities are performed.
   - For more information on the MITC Control Plan and an example form see Appendix III.
2. For all shank applications the operator of the property must have one of the following capabilities in order to respond to off-site movement of MITC:
   - For applications in a *sensitive area* (see Appendix I for definition), irrigation equipment and water must be available for 48 hours post-application, and must be capable of delivering at least 0.20 - 0.40 inch of water in 2-3 hours over the treatment site, at a rate of 0.15 - 0.25 inches per hours.
   - For applications in a *standard area* (see Appendix I for definition), irrigation equipment and water must be available for 24 hours post application, and must be capable of delivering at least 0.20 - 0.40 inch of water in 2-3 hours over the treatment site, at a rate of 0.15 - 0.25 inches per hour. This is not required if the application is greater than 1/2 mile from occupied structures, bystander areas, or other similar sites determined by the CAC.
   - For 1 a.m. start shank applications, irrigation equipment and water must be available for 24 hours post-application, and must be capable of delivering at least 0.20 - 0.40 inch of water in 2-3 hours over the treatment site, at a rate of 0.15 - 0.25 inches per hours.
   - If water is not available, sufficient untreated soil must be available to place a 3-inch cap over the treated area. This is not required if the application is 1/2 mile or greater from occupied structures, bystander areas, or other similar sites determined by the CAC.
3. Exemptions
   - The operator of the property may substitute the California Fumigant Management Plan required by new federal labels for the MITC Control Plan (and the Application Information and Monitoring Plan).

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Recommended Permit Conditions for Shank Applications,
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Notice of Intent

1. The Notice of Intent (NOI) is required to be submitted at least 48 hours prior to fumigation.
2. In addition to information required in 3 CCR section 6434(b), the following information must be submitted with the NOI:
   - The number of application blocks to be treated and acreage of each application block.
   - The time (within a 4-hour window) that each application is scheduled to commence. Once the 4-hour window closes a new NOI is required, but another 48-hour waiting period would not be needed unless required by the CAC.
   - The method of post-application treatment to be used to suppress off-site movement, including number of post-application water treatments, if applicable.
   - The buffer zone size and buffer zone duration.
   - The certified applicator's 24-hour contact telephone number.
   - Documentation of agreement allowing the buffer zone to extend onto the adjoining agricultural property, if applicable.
   - Documentation of the agreement to allow a buffer to extend into the property of an occupied structure, if applicable.
   - Proof of sufficient water availability for application, post-application water treatment, and MITC Control Plan or CA FMP requirements.
   - Proof of sufficient soil if soil capping can be used in lieu of water for MITC Control Plan or CA FMP requirements.

Application timing

1. With the exception of the nighttime application method listed below, metam sodium and metam potassium shank applications must start no earlier than 1 hour after sunrise and must be completed in time to allow post-application water treatments to begin no later than 1 hour before sunset.
2. Allowed nighttime application method (see specific requirements below for this application method)
   - Shank application that begins no earlier than 1 a.m. (broadcast or bed).

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Recommended Permit Conditions for Shank Applications,
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Buffer zones

1. **Tables**
   - Use Tables 1, 2 or 3 as appropriate based on the start time and number of post-application water treatments to determine the buffer zone distance.
   - If the tables do not capture the specific acreage or application rate, round up to the nearest acre or rate.
   - If the buffer zone required by the permit conditions and the label conflict, use the longest of the two buffer zones.
2. **Onsite measurement**
   - The buffer zone is measured from the perimeter of the application block to the perimeter of an occupied structure or bystander area property line.
3. **Restrictions**
   - The following restrictions apply from the start of the application until the expiration of the buffer zone:
     i) Buffer zones are in effect at the start of the application.
     ii) Buffer zones shall not contain occupied structures.
     iii) The operator of the property shall assure that no persons are allowed in a buffer zone except to transit, perform fumigation handling activities and commissioner-approved activities.
     iv) Buffer zones shall not extend into properties of occupied structures or bystander areas.
     i) Buffer zones shall not extend into adjoining agricultural properties.
     v) The CAC may approve buffer zones that extend across transit sites (streets, highways, etc.).
4. **Exemptions**
   - If advanced permission is obtained from the property owner, operator or legal resident, the buffer may encroach onto the property of an occupied structure up to a clearly specified boundary. Documentation of this agreement must be submitted with the NOI.
   - When an application requires the buffer zone to extend into an adjoining agricultural property, an agreement must be obtained. The operator of the property to be treated must document how the operator of the adjoining property will ensure workers will not enter the buffer zone. Documentation of this agreement must be submitted with the NOI.

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Recommended Permit Conditions for Shank Applications,
Continued

Buffer zones (continued)

5. **Duration**
   - Buffer zones remain in effect for **24 hours** after the completion of metam sodium or metam potassium applications when two or three post-application water treatments are made. This includes the 1 a.m. start shank application.
   - Buffer zones remain in effect for **48 hours** when one post-application water treatment is made.
6. **Multiple Block Applications**
   - Application blocks of an individual operator of the property that are less than ¼ mile apart and are treated consecutively over a 2-day period are considered multiple block applications.
   - For these application blocks, the CAC will determine the buffer zone distance based on the total acreage to be treated by the individual grower or operator of the property in a consecutive 2-day period, unless 24 hours (or 48 hours if using one post-application water treatment) have elapsed between the start of each application.
   - If feasible, the application blocks must be treated in a sequence that moves away from sensitive sites.

Monitoring requirements

1. **General Requirements**
   - Monitoring information must be recorded on the Application Summary and Monitoring form (Appendix II) or equivalent form. The operator of the property may substitute the CA FMP required by new federal labels for the Application Information and Monitoring Plan (and the MITC Control Plan).
   - If monitoring indicates a change that could result in offsite movement (e.g. increased or greatly decreased wind speed, change in wind direction toward occupied structures) the grower or applicator should be ready to take whatever action is necessary to prevent or reduce offsite movement. This would include postponing or stopping an application and/or immediately applying additional water or a soil cap.
   - Monitoring records must be maintained for 2 years.

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Monitoring requirements (continued)

2. **Pre-Application**
   - The following conditions must be met and recorded immediately prior to the application:
     i) Monitor and document wind speed and direction, soil temperature, moisture content, and air temperature at the application site.
   - Applications may not begin if:
     i) Soil temperature at 3 inch depth is greater than 90 degrees F.
     ii) Soil moisture above the depth of application is insufficient to meet the following test appropriate to the soil texture:
       (1) coarse soils (sand and loamy sand), at least enough moisture to form a ball when compressed by hand that may break when tapped;
       (2) loamy, moderately coarse or medium textured (coarse sandy loam, sandy loam, fine sandy loam) at least enough moisture to form a ball that holds together when tapped;
       (3) fine texture soils (clay loam, silty clay loam, sandy clay, silty clay, sandy clay loam and clay), at least enough moisture that soil is pliable, not crumbly.
3. **Application**
   - The operator of the property or a trained employee must be present during the application.
   - The following application conditions must be monitored and recorded during the application:
     i) Wind speed and wind direction must be monitored **every hour** until the application is completed.
     ii) Any unusual conditions (e.g., odor, reported illness, equipment failure or spill) observed at the work site.

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Monitoring requirements (continued)

4. **Post-application**
   - On the day of application, the operator of the property or a trained employee must be at the site continually from 1 hour before sunset through 1 hour after sunset, in addition to the periods required to conduct post-application monitoring. For the one allowed nighttime shank application, the operator of the property or a trained employee must also be on site continually during the hour before sunrise through the hour after sunrise, in addition to the periods required to conduct post-application monitoring. If an employee is present at the site, the employee must be able to immediately contact the operator of the property or have authority to respond in case any unusual conditions occur.
   - Post-application field monitoring shall be conducted for 12 hours following application:
     i) For applications made in *sensitive areas*, (this includes applications made within ½ mile of a school when in session during application or the duration of the buffer zone) monitoring must occur **every hour**.
     ii) For applications made in a *standard area* monitoring must occur **every two hours.**
   - The following post-application conditions must be monitored and recorded at the appropriate intervals:
     i) Wind speed and direction at the application site.
     ii) Air temperature at the application site.
     iii) Post-application watering information (see Appendix II application requirements or the CA FMP for required information). Record start and stop times for water treatments, as well as inches applied.
     iv) Any unusual conditions observed at the worksite (e.g., dry soil conditions, odor or irrigation equipment failure).
   - The grower and pest control business need to follow the requirements in the MITC Control Plan or the CA FMP if the unusual condition(s) could result in off-site movement of MITC.

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Recommended Permit Conditions for Shank Applications,
Continued

Application method requirements

1. The following general requirements apply to all shank applications of metam sodium and metam potassium:
   - All equipment must be inspected prior to use to assure it is in good working condition.
   - The shanks and injector orifices must be below the soil surface before flow begins, and prior to removing them from the soil, the flow must be terminated.
   - All irrigation equipment that will be used for post-application water treatments must be inspected and tested prior to use to assure it is in good working condition.
   - Application block size is limited to a maximum of 40 acres within a 24-hour period when made within ½ - 1 mile from the perimeter of school property (when the school is in session or scheduled to be in session while the buffer zone is in effect) or when made within a sensitive area.
   - Application block size is limited to a maximum of 80 acres within a 24-hour period in a standard area.
2. **Shank applications beginning no earlier than 1 a.m.**
   - In addition to the general requirements listed above, the following specific requirements apply to metam sodium and metam potassium shank applications beginning no earlier than 1 a.m.
     i) This application method is allowed year round.
     ii) Before application, thoroughly cultivate the field with a disc or spring tooth bar to remove clods.
     iii) The application equipment must meet the following specific criteria:
       (1) The shanks must be set on three bars spaced 12 - 16 inches apart from front to back.
       (2) The shanks must be staggered on each tool bar to produce a final overall shank spacing of 9 - 11 inches.
       (3) Injection depth on each shank must be 3 - 4 inches, 6 - 7 inches, and 9 - 10 inches.
       (4) Anytime the shanks are lifted from the ground, nitrogen must be used to purge the system before the application bar is lifted out of the ground at any time.

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Application method requirements (continued)

iv) Compaction equipment must meet one of the following criterion:
(1) The application tool bars must be followed by a ring roller that is at least as wide as the application tool bars, with 4-gauge wheels controlled by hydraulic cylinders to control depth and/or pressure. **OR**
(2) The application tool bars must be followed with a coil packer that is at least as wide as the application tool bars.

- A minimum of two post-application water treatments must be applied.
- Post-application water treatment must be underway by sunrise.

Post-application requirements

1. **Post-Application Water Treatments**
   - Post-application water treatments must be recorded on the Application Summary and Monitoring form (Appendix II) or the CA FMP.
   - Water may be applied at any time in response to odor or illness.
   - Each of the post-application water treatments discussed below must be completed within 2-3 hours.
   - The 0.20 – 0.40 inch range allows the CAC to determine the amount of water required, based on soil type and moisture content, and air and soil temperature at the time of application.
   - For **sensitive areas**, a minimum of three post-application water treatments are required.
     i) First post-application water treatment: Apply a minimum of 0.20 - 0.40 inch of water to the application block, at a rate of 0.15 - 0.25 inches per hour, starting within 30 minutes of completion of the application (day 1).
     ii) Second post-application water treatment: Apply a minimum of 0.20 - 0.40 inch of water to the application block, at a rate of 0.15 - 0.25 inches per hour, on the same day of application, beginning no earlier than 1 hour prior to sunset and completing by midnight (day 1).
     iii) Third post-application water treatment: On the day following the application, apply a minimum of 0.20 - 0.40 inch of water to the application block, at a rate of 0.15 - 0.25 inches per hour, beginning no earlier than 1 hour prior to sunset and completing by midnight (day 2).

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Recommended Permit Conditions for Shank Applications,
Continued

Post-application requirements (continued)

- For **standard areas**, a minimum of two post-application water treatments are required.
  i) First post-application water treatment: Apply a minimum of 0.20 - 0.40 inch of water to the application block, at a rate of 0.15 - 0.25 inches per hour, starting within 30 minutes of completion of the application (day 1).
  ii) Second post-application water treatment: Apply a minimum of 0.20 - 0.40 inch of water to the application block, at a rate of 0.15 - 0.25 inches per hour, on the same day of application, beginning no earlier than 1 hour prior to sunset and completing by midnight (day 1).
- For **1 a.m start shank** a minimum of two post-application water treatments are required.
  i) First post-application water treatment: Apply a minimum of 0.20 - 0.40 inch of water to the application block, at a rate of 0.15 - 0.25 inches per hour, starting within 30 minutes of completion of the application.
  ii) Second post-application water treatment: Apply a minimum of 0.20 - 0.40 inch of water to the application block, at a rate of 0.15 - 0.25 inches per hour, on the same day of application, beginning no earlier than 1 hour prior to sunset and completing by midnight (day 1).

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Recommended Permit Conditions for Shank Applications,
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Post-application requirements (continued)

2. **Exceptions to Metam Sodium/Metal Potassium Post-Application Water Treatment Requirements:**
   - **Alternate Sealing -** Post-application water treatments are not required for applications made under the either of the two conditions listed below. For applications meeting one of these two conditions, the buffer zone will remain in effect for 24 hours (unless specified) after the completion of the application:
     i) Post application water treatment(s) are be required following soil injection (i.e., shank) applications in standard areas under the following conditions:
        (1) Metam is banded using a width 14 inches or less.
        (2) The maximum application rate is 60 pounds active ingredient per acre (14 gallons metam sodium).
        (3) The injection depth is 3-6 inches.
        (4) A soil capping method is utilized by placing a minimum of 6 inches of soil on top of the bed over the band treatment and compacted using a mechanical device (compaction roller).
        (5) Use Table 2 to determine buffer zones.
        (6) The buffer zone duration is 24 hours.

     OR

     ii) The application block is tarped.
        (1) The tarp must remain in place for a minimum of 48 hours.
        (2) Use Table 2 to determine buffer zones.
        (3) The buffer zone remains in effect until the tarp is removed.
3. **CAC Discretion**
   - The CAC has the option to eliminate the third post-application water treatment requirement in sensitive areas based on an evaluation of the soil type and moisture content, knowledge of local conditions and effective control measures previously used. Use the buffer zones for two post-application water treatments if the third post-application water treatment is eliminated.
   - The CAC has the option to eliminate the second post-application water treatment requirement in standard areas based on an evaluation of the soil type and moisture content, knowledge of local conditions and effective control measures previously used, and the application block is greater than 1 mile from a school in session. Use the buffer zones for one post-application water treatments if the second (as opposed to third) post-application water treatment is eliminated. In addition, the buffer zone duration is 48 hours if one post-application water treatment is allowed.

Table 1.
Metam Sodium and Metam Potassium Buffer Zone Values for Shank Applications
(includes 1 a.m. Start Shank Application Methods)
Three Post-Application Water Treatments

Acres Treated	Buffer Zones (feet)														
	Application Rate[1] (lbs active ingredient per acre)														
	320	300	280	260	240	220	200	180	160	140	120	100	80	60	40
1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
5	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
10	200	200	150	150	100	100	100	100	100	100	100	100	100	100	100
15	300	250	200	150	100	100	100	100	100	100	100	100	100	100	100
20	400	350	300	250	200	200	150	150	100	100	100	100	100	100	100
25	500	450	350	300	200	200	150	150	100	100	100	100	100	100	100
30	500	450	350	300	200	200	150	150	100	100	100	100	100	100	100
35	500	450	350	300	200	200	150	150	100	100	100	100	100	100	100
40	600	550	450	400	300	250	200	150	100	100	100	100	100	100	100
45	600	550	450	400	300	250	200	150	100	100	100	100	100	100	100
50	600	550	450	400	300	250	200	150	100	100	100	100	100	100	100
55	600	550	450	400	300	250	200	150	100	100	100	100	100	100	100
60	600	550	450	400	300	250	200	150	100	100	100	100	100	100	100
65	600	550	450	400	300	250	200	150	100	100	100	100	100	100	100
70	600	550	450	400	300	250	200	150	100	100	100	100	100	100	100
75	600	550	450	400	300	250	200	150	100	100	100	100	100	100	100
80	600	550	450	400	300	250	200	150	100	100	100	100	100	100	100

[1]Application rates are expressed for broadcast applications, and were calculated for metam sodium applications. To determine buffer zones for metam potassium applications, multiply the buffer zone distance listed by 0.9.

Table 2.
Metam Sodium and Metam Potassium Buffer Zone Values for Shank Applications
(includes 1 a.m. Start Shank Application Methods and Alternate Sealing methods)
Two Post-Application Water Treatments

Acres Treated	Buffer Zones (feet)														
	Application Rate[1] (lbs active ingredient per acre)														
	320	300	280	260	240	220	200	180	160	140	120	100	80	60	40
1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
5	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
10	300	250	200	150	100	100	100	100	100	100	100	100	100	100	100
15	400	350	300	250	200	200	150	150	100	100	100	100	100	100	100
20	500	450	400	350	300	250	200	150	100	100	100	100	100	100	100
25	700	650	550	500	400	350	250	200	100	100	100	100	100	100	100
30	700	650	550	500	400	350	250	200	100	100	100	100	100	100	100
35	700	650	550	500	400	350	250	200	100	100	100	100	100	100	100
40	900	800	700	600	500	400	300	200	100	100	100	100	100	100	100
45	900	800	700	600	500	400	300	200	100	100	100	100	100	100	100
50	900	800	700	600	500	400	300	200	100	100	100	100	100	100	100
55	1,000	900	750	650	500	400	300	200	100	100	100	100	100	100	100
60	1,000	900	750	650	500	400	300	200	100	100	100	100	100	100	100
65	1,000	900	750	650	500	400	300	200	100	100	100	100	100	100	100
70	1,000	900	750	650	500	400	300	200	100	100	100	100	100	100	100
75	1,000	900	750	650	500	400	300	200	100	100	100	100	100	100	100
80	1,000	900	750	650	500	400	300	200	100	100	100	100	100	100	100

[1]Application rates are expressed for broadcast applications, and were calculated for metam sodium applications. To determine buffer zones for metam potassium applications, multiply the buffer zone distance listed by 0.9.

Table 3.
Metam Sodium and Metam Potassium Buffer Zone Values for Shank Applications
One Post-Application Water Treatment

Acres Treated	Buffer Zones (feet)														
	Application Rate[1] (lbs active ingredient per acre)														
	320	300	280	260	240	220	200	180	160	140	120	100	80	60	40
1	500	450	400	350	300	250	200	150	100	100	100	100	100	100	100
5	1,400	1,300	1,200	1,100	1,000	900	800	700	600	500	350	250	100	100	100
10	2,100	2,000	1,850	1,750	1,600	1,450	1300	1,150	1,000	850	650	500	300	200	100
15	NA[2]	2,450	2,300	2,150	2,000	1,850	1,650	1,500	1,300	1,100	850	650	400	250	100
20	NA[2]	NA[2]	NA[2]	NA[2]	2,500	2,300	2,050	1,850	1,600	1,350	1,100	850	600	400	200
25	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	2,500	2,300	2,100	1,750	1,400	1,050	700	450	200
30	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	2,500	2,300	2,100	1,750	1,400	1,050	700	450	200
35	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	2,500	2,300	2,100	1,750	1,400	1,050	700	450	200
40	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	2,500	2,100	1,700	1,300	900	600	300
45	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	2,500	2,150	1,800	1,450	1,100	800	500
50	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	2,500	2,150	1,800	1,450	1,100	800	500
55	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	2,500	2,150	1,800	1,450	1,100	800	500
60	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	2,500	2,150	1,800	1,450	1,100	800	500
65	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	2,500	2,150	1,800	1,450	1,100	800	500
70	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	2,500	2,150	1,800	1,450	1,100	800	500
75	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	2,500	2,150	1,800	1,450	1,100	800	500
80	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	NA[2]	2,200	1,750	1,300	900	600

[1] Application rates are expressed for broadcast applications, and were calculated for metam sodium applications. To determine buffer zones for metam potassium applications, multiply the buffer zone distance listed by 0.9.
[2] NOT ALLOWED

APPENDIX I

Definitions

Application: Activities required to incorporate metam sodium, metam potassium or dazomet into the prepared soil. Applying additional water to the treated soil in order to suppress off-site movement of MITC is not part of the application process.

Bystander Area: An area used or visited by people on a daily basis, including parks, playgrounds, lakes, reservoirs, bus stops, and other similar areas where groups of people visit, or other areas identified by the CAC.

Drench Application: Application is made to pre-formed beds or to rows, using low-pressure (30 – 35 pounds per square inch) booms with nozzles <12 inches above the top of the beds.

MITC: Methyl isothiocyanate. Metam sodium, metam potassium, and dazomet break down into a number of compounds. MITC is one of the breakdown compounds.

MITC Control Plan: Written procedures that will provide an adequate response in the event MITC odors from metam sodium, metam potassium or dazomet are detected away from the application site, or symptoms are reported. The plan provides instructions on response procedures to cooperators and employees involved in metam sodium, metam potassium and dazomet applications.

Multiple Blocks: Application blocks of an individual operator of the property that are less than ¼ mile apart and are treated consecutively over a 2-day period. In order for two applications to be considered independent, the buffer zone for one application must still be adequate if the second application is upwind of the first application.

Occupied Structure: A home or other building that may be occupied at any time during a 24-hour period. This includes living and working areas that are associated with the occupied structure (e.g. yard, garden). Homes occupied by the property owner or permittee are excluded from this definition.

Ozone Nonattainment Area: An area designated in Title 40, Code of Federal Regulations section 81.305 for the purpose of air quality planning within the chart titled "California – Ozone (1-Hour Standard)".

Rod Bar Application: Backward-facing hollow tube (rod) attached to a metal blade-like horizontal bar. The rod bar is designed to operate under the surface of pre-formed beds, dispersing metam through holes spaced ½ - 1 inch linearly along the entire length of the bar. The application is immediately followed by a bed shaper or solid press rollers that compact the soil over the treated area.

Rotary Tiller Application: Metam is sprayed on or injected under the soil surface immediately in front of a power driven tiller. The treated soil is tilled with untreated soil at a depth set to where control is desired and immediately compressed with a soil-compacting device.

APPENDIX I

School: An institution for the instruction of children from kindergarten through high school. Also included are day care centers and preschools, as defined in the Health and Safety Code section 1596.76. *"Day care center" means any child day care facility other than a family day care home, and includes infant centers, preschools, extended day care facilities, and schoolage child care centers.* This excludes family home day care. (Users can find day care centers in their area by going to the following website: https://secure.dss.cahwnet.gov/ccld/securenet/ccld_search/ccld_search.aspx. Search on "child care center" as the facility type and then search on ZIP code, city, county or area code to find the names and addresses of the child care centers in a specific area.)

Sensitive Area: An area where the application block is ¼ mile or less from occupied structures (e.g., residences, employee housing, businesses, schools, convalescent homes, hospitals), bystander areas, and other similar sites determined by the CAC.

Soil Capping Application: Following a metam sodium or metam potassium band treatment, a minimum of 6 inches of untreated soil is placed over the band.

Spray Blade Application: An 8 - 14 inch horizontal "V"-shaped blade designed to operate under the soil surface with one or two backward-facing spray nozzles placed under the leading edge. The blade is placed 1 - 4 inches below the soil surface and the resulting subsurface band is further covered with disk-hillers immediately following to form a minimum 6-inch protective cap over the treated band.

Standard Area: An area where the application block is greater than ¼ mile away from occupied structures (e.g., residences, employee housing, businesses, schools, convalescent homes, hospitals), bystander areas, and other similar sites determined by the CAC.

APPENDIX II

Metam Sodium/Potassium and Dazomet

Application Summary and Monitoring Form

APPLICATION INFORMATION

Grower Name: _____

Permit Number: _____

Field Location and Site ID #: _____

Metam Sodium/Metam Potassium,
Dazomet Certified Person: _____

Applicator/P.C.O.: _____

Pesticide Applied: _____

Pounds active ingredient/Acre: _____

Application Rate: _____

Number Acres Treated: _____

PRE-APPLICATION REQUIREMENTS:

Wind Speed and Direction
(at 4-6 feet above ground): _____

Soil Temperature (3" depth): _____

Soil Moisture: _____

Air Temperature: _____

Buffer Zone Table Number: _____

Buffer Zone Distance (Feet): _____

APPENDIX II

Metam Sodium/Potassium and Dazomet
Application Summary and Monitoring Form

APPLICATION REQUIREMENTS

1. Sprinkler Applications

Water Pressure (pounds/square inch): _____

Nozzle Size: _____

Length/Line: _____

Irrigation Rate (inches/hour): _____

Irrigation Set Number: _____

Lines/Set: _____

Acres Treated/Set: _____

Application Start Time: _____

Application Completion Time: _____

2. Soil Injection Applications

Equipment Used: _____

Depth of Injection: _____

Compaction Equipment Used: _____

Application Start Time: _____

Application Completion Time: _____

3. Dazomet Applications

Equipment Used: _____

Application Start Time: _____

Application Completion Time: _____

APPENDIX II

Metam Sodium/Potassium and Dazomet
Application Summary and Monitoring Form

Table 1. Hourly Environmental Conditions During Application

Date: _____	**Time**	**Wind Speed (MPH)**	**Wind Direction (from)**	**Unusual Conditions**
Hour 1				
Hour 2				
Hour 3				
Hour 4				
Hour 5				
Hour 6				
Hour 7				
Hour 8				
Hour 9				
Hour 10				
End				

Table 2. Post-Application Water Treatments Sprinkler, Shank, and Dazomet

Water Treatment 1st, 2nd, 3rd	**Date/Time Started**	**Date/Time Completed**	**Inches**	**Comments**

APPENDIX II

Metam Sodium/Potassium and Dazomet
Application Summary and Monitoring Form

Table. 3. Post-Application Field Monitoring

Date: _____	Time	Air Temp	Wind Speed (MPH)	Wind Direction (from)	Unusual Conditions
1 hour before sunset					
At sunset					
1 hours post application					
2 hours post application					
3 hours post application					
4 hours post application					
5 hours post application					
6 hours post application					
7 hours post application					
8 hours post application					
9 hours post application					
10 hours post application					
11 hours post application					
12 hours post application					

Note: Monitoring is required for a 12-hour period after application. Monitoring is required **every hour** for sensitive areas or areas between ½ - 1 mile of a school property when school is in session (or scheduled to be in session while the buffer zone is in effect). Monitoring is required **every two hours** if the application is between ¼ - ½ mile from an occupied structure or bystander area.

APPENDIX III

MITC Control Plan

The purpose of the MITC Control Plan is to assure procedures are in place to: (1) adequately respond in the event that odors of metam sodium/metam potassium (metam) are detected away from the application site or symptoms are reported, (2) provide instructions on response procedures to cooperators and employees involved in metam applications and post-application monitoring, and (3) notify appropriate governmental, grower and pest control business, and registrant/dealer personnel. The plan shall be on site during the application and post-application monitoring period. All employees involved in the application and post-application treatment must receive annual training in response procedures.

Security of Treatment Site

A trained employee must be at the field site continuously during application and during the post-application monitoring. Emergency personal protective equipment (PPE; coveralls over long sleeve shirt and pants, socks, chemical resistant boots, chemical resistant gloves, and a full face respirator or half face respirator with non-vented goggles) must be available at all times.

- Metam posting signs must be in place at all points of field entry and every 200 feet along public access roads.
- Metam storage tanks must be locked when not in use.

Response for Handling – Metam Sodium, Metam Potassium, and Dazomet Leaks and Spills

- Evacuate personnel from the leak or spill area. Shut down the application system to stop the leak or spill. If possible, determine wind direction and move personnel and anyone injured upwind and away from the impacted area. Establish control of the area.
- Immediately administer first aid to anyone who may be injured and contact the appropriate emergency personnel by dialing 9-1-1.
- Emergency PPE must be readily accessible at all times.
- Wear emergency PPE and clothing required by the label when assisting with repair of leaks and small spill clean up. For large spills, see below.
- For small leaks from application and chemigation equipment, put a container under the leak and catch the leaking material. Turn off any equipment valves that may affect the leak. Repair the leak. Return caught material to tank or dispose of properly. Clean up the contaminated area.
- For small spills, contain the material. If puddles are present, clean it up with absorbent material and dispose according to appropriate local, state and/or federal requirements. If the soil is contaminated, determine whether removal is necessary. If contaminated soil must be removed, dispose contaminated soil according to appropriate local, state and/or federal requirements.
- For large spills, notify HazMat or Fire Department personnel immediately. If properly trained in HazMat responses, wear appropriate PPE (chemical resistant suit, gloves and boots, and self-contained breathing apparatus). Dike the area to prevent spreading and

further environmental contamination. If metam sodium or metam potassium has pooled within the dike area, then use a tank truck with vacuum hoses to remove it. Remove and dispose the contaminated soil according to appropriate local, state and/or federal requirements. The plan may include the assistance of an environmental service company that could provide support in large spill emergencies.

- Notify the appropriate personnel (see Notification section below).

APPENDIX III

MITC Control Plan

Mitigation of Off-Site MITC Movement

If odors are detected or eye, nose and/or throat irritation is experienced during or following an application, implement the following steps as applicable:

- Cease the application immediately.
- Require employees to wear the PPE required by the labeling, including a full-face respirator or half-face respirator with non-venting goggles.
- Immediately apply 0.20 - 0.40 inch of water in 2-3 hours uniformly over the treatment site, at a rate of 0.15 - 0.25 inches per hours. Offsite mitigation water applications are not required when the application block is greater than 1 mile from an occupied structure or bystander area.

OR

- Immediately apply a 3-inch cap of untreated soil over the treated area. This is not required if the application is 1 mile or greater from occupied structures, bystander areas, or other similar sites determined by the CAC.
- Determine the cause of odor or off-site MITC movement, correct the problem or wait until conditions are suitable for re-starting the application.
- Notify the commissioner and other appropriate personnel within 1 hour of initiation of the response.
- Obtain authorization from the CAC prior to restarting any application that has been ceased due to a response.

Notification of Appropriate Persons/Agencies/Companies

Personnel	**Name**	**Telephone**
Grower		
On Site Supervisor		
Applicator		
Irrigation Supervisor		
Metam Distributor		
Pest Control Business (if custom application)		
County Agricultural Commissioner's Office (large spills/health incidents):		
Metam Sodium/Potassium/Dazomet Manufacturer		

APPENDIX III

Emergency Services: Ambulance, Fire, County Sheriff, Highway Patrol: Call 9-1-1

Doctor
Name_____
Address_____
_____
Phone_____

Hospital
Name_____
Address_____
_____
Phone_____